



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/089,260

10/07/2002

Richard W. Duce

DP-301244

8074

7590

07/12/2004

Vincent A Cichosz
Delphi Technologies Inc
1450 West Long Lake Road
Troy, MI 48007-5052

EXAMINER

CYGAN, MICHAEL T

ART UNIT

PAPER NUMBER

2855

DATE MAILED: 07/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
P.O. Box 1450
ALEXANDRIA, VA 22313-1450
www.uspto.gov

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/089,260
Filing Date: October 07, 2002
Appellant(s): DUCE ET AL.

MAILED
JUL 12 2004
GROUP 2800

Joel Charlton
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 15 June 2004.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

Appellant's brief includes a statement that claims 1-20 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) *Claims Appealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

5,329,806	MCCLANAHAN	7-1994
5,817,920	KUISELL	10-1998

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 13, 16, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by McClanahan (US 5,329,806). McClanahan discloses the claimed invention, an oxygen sensor having sensing element [40], subassembly [34], upper shield [68], terminal support [64], and ceramic insulator [44] having passageway for receiving terminals [52], and a seal having a hinge portion designed to lock with an edge of the upper shield. See Figures 2 and 3.

Claims 1-13, and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuisell in view of McClanahan (US 5,329,806). Kuisell teaches an oxygen sensor comprising sensing element [44], subassembly [50], upper shield [63], ceramic terminal support [72], and alumina insulator [62] having passageway for receiving terminals [66,68], connected in the claimed manner; see Figure 1 and columns 2-5. The terminal support is stated to be comprised of a high temperature ceramic; alumina is given as an example of a high temperature ceramic; see column 4, lines 23-29. A method of providing the above sensor for exposure to engine operating conditions as an exhaust gas sensor is disclosed (column 1, lines 33-39).

Kuisell teaches the claimed invention except for the claimed seal structure and an indented channel in the terminal support, and the use of ceramic fibers as the insulator [62]. McClanahan discloses a similar exhaust sensor having a seal [38] having a hinge portion [70] designed to lock with an edge of the upper shield, and a terminal support having a channel to engage a feature on the terminal; see Figures 2 and 3. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the alternative seal design and alternative terminal support structure of McClanahan in the sensor of Kuisell to obtain the seal fixing advantages stated by McClanahan (column 1, lines 41-54), and to obtain the advantage of fixing or restricting the location of the terminal in the support.

With respect to claims 4 and 10, Kuisell teaches the claimed invention, including the use of high temperature durable ceramic fibers as an additional insulator [34], except for the use of ceramic fibers as the insulator [62]. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use high temperature durable ceramic fibers as the insulator [62], since the ceramic fibers are taught to have the properties (support, strength (i.e. durability), high temperature operation, electrical insulation) desired as ceramic insulator [62].

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuisell in view of McClanahan (US 5,329,806) as set forth in the rejection of claim 13, further in view of Kato (US 5,948,963). The claimed invention is taught as detailed above except for the use of a talc pack separating insulator sections. Kato teaches the

Art Unit: 2855

use of a talc pack [76] separating insulator sections (column 10, lines 52-60). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a talc pack to separate insulator sections (note separate insulator sections of McClanahan in Figure 7), since Kato teaches the use of such a layer to provide sealing.

(11) Response to Argument

With respect to claims 13-20, while appellant argues that the '806 patent to McClanahan does not teach a "one-piece seal", Figures 2 and 3 of the '806 patent show a one-piece "cap 38" which has the claimed structure (see column 2 lines 60-64). The part of the cap referred to as the seal [64] is joined with the cap to form a one-piece structure which is then inserted into the gas sensor support structure to seal the upper assembly. Note that something that is in "one piece" may have previously been assembled from multiple components; the seal composed of joined parts 38 and 64 is clearly in one piece at the time of joining to the rest of the sensor assembly as shown in Figures 2 and 3. It is important to note that "one-piece" does not require the structure to have been formed integrally or of a single material.

The advantages which appellants contend to arise from their invention appear to arise from use of a single material "made by conventional molding techniques known in the art" and as disclosed in a different patent application; see appellant's specification page 5 lines 15-25. Such a seal is disclosed to have a flange of the seal [40] which "sinks into the upper shield 20". Since such limitations are neither explicitly recited nor

expressly inherent in the claims, any advantages which flow from these are not claimed and therefore irrelevant to the consideration of the patentability of the claims under appeal. The claimed invention as set forth in claim 13 requires only a "one-piece seal", which is disclosed, as set forth in the rejection and the arguments above, by McClanahan.

It is noted that "one possible seal" which possesses the integral molded structure and the advantages that flow therefrom is disclosed in a separate patent application (see appellant's specification page 5 lines 23-25), and therefore forms no part of the patentability of the claimed invention here under appeal. The claimed invention as set forth in claim 13 requires only a "one-piece seal", which is disclosed, as set forth in the rejection and the arguments above, by McClanahan.

With respect to the rejection of the claims over Kuisell in view of McClanahan, claim 1 is taken as a representative of the group. In response to appellant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, Kuisell teaches an exhaust sensor having a structure which eliminates contact between a shield [63] and an outer protective shell [50] to thereby protect a glass bond [34] from mechanical shock; see abstract and Figure 1.

McClanahan was applied to teach an improved sealing structure of the upper part of the exhaust sensor which connects output wires to the sensor terminals. Since Kuisell is not directed to any special sealing structure of the upper part, such modification would not interfere with the operability or the advantages of the invention of Kuisell. Kuisell teaches a (one-piece rubber) seal [80] which is maintained in place by a metal retainer; see column 3 lines 49-62. Utilizing the upper sealing structure of McClanahan in the invention of Kuisell to replace the retainer/seal structure would "obtain the seal fixing advantages stated by McClanahan (column 1, lines 41-54), and obtain the advantage of fixing or restricting the location of the terminal in the support", as stated in the rejection.

In response to appellant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the appellant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). As discussed above, the knowledge was taken from the references themselves.

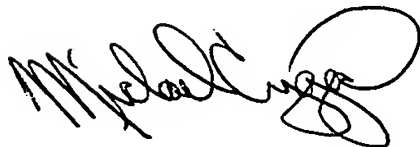
Art Unit: 2855

With respect to claims 14 and 15, since the appellants argue only that the claims fail to teach subject matter of the independent claim 13, it is believed that these claims should stand or fall with independent claim 13.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Michael Cygan
Primary Examiner
Art Unit 2855



Michael Cygan
July 9, 2004

Conferees

EL
Edward Lefkowitz

Olik Chaudhuri 

Vincent A Cichosz
Delphi Technologies Inc
1450 West Long Lake Road
Troy, MI 48007-5052